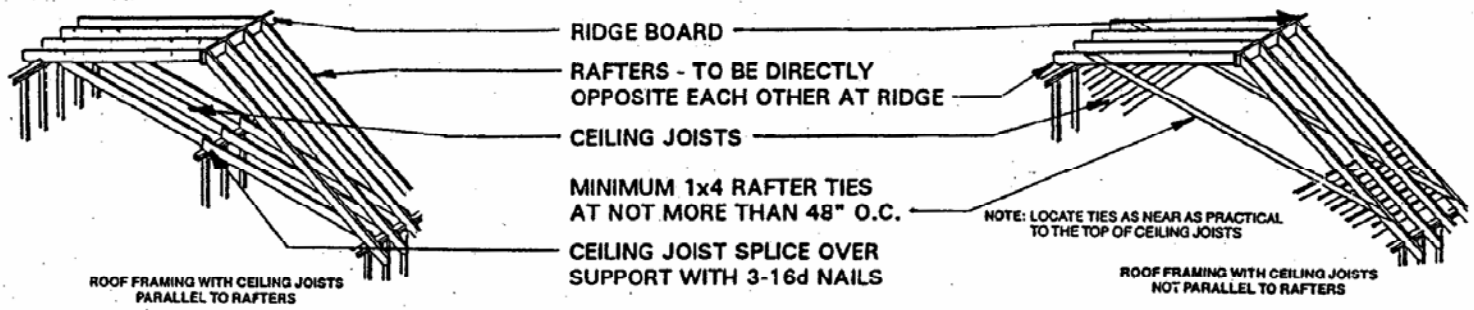
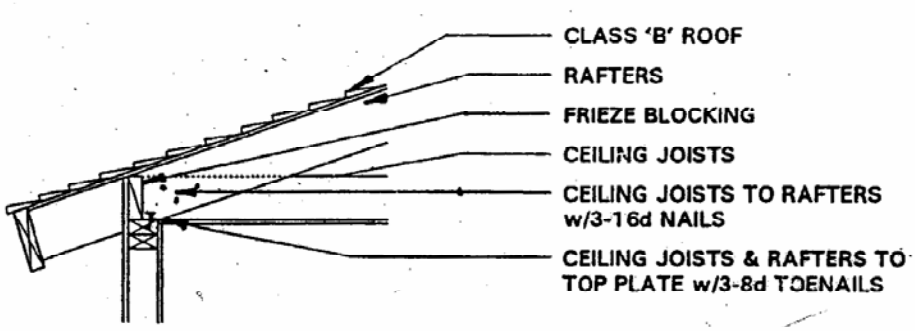
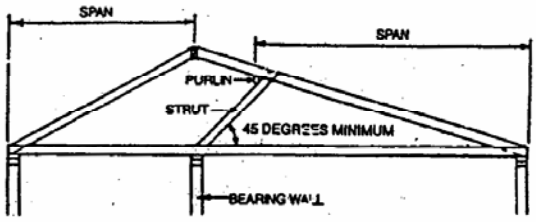
SINGLE FAMILY ROOF FRAMING RESIDENTIAL







Attics in excess of 3,000 square feet or longer than 60 feet must have draft stops that comply with Section 708.3.1..2.2, CBC.

GENERAL NOTES

1. The ridge board is to be at least a 1x member with a depth that is not less than the cut of the rafter.
2. Rafters are to be framed directly opposite each other at the ridge board.
3. Rafters and ceiling joists are to be blocked to prevent rotation and lateral displacement. See UBC §2306.7 for specifications.
4. Purlins used to reduce the span of rafters are not to be smaller than the supported rafter. 4' maximum span for 2x4 purlins and 6' maximum span for 2x6 or larger purlins.
5. Purlins are to be supported by struts not smaller than 2x4. Struts are to be installed at an angle of not less than 45° from the horizontal. Struts are to be supported by bearing walls or beams. Struts over 8' long require bracing to prevent lateral displacement.
6. Nailing is per UBC Nailing Schedule 23-I-Q.
7. Rafter and ceiling joist span table per UBC Chapter 23.
8. Rafter spans and framing details are based on 3:12 minimum slope.
9. Attic ventilation needs to be at least 1/150 of the attic area. The area of the ventilation may be reduced to 1/300 if the area is equally distributed between high and low vents.
10. A 22"x30" attic access is required for all attics which are more than 30" in height. 30" minimum headroom is required above the access.
11. The criteria in this handout is for residential construction up to 2500' elevation. Consult the Code for other conditions and requirements.

RAFTER & CEILING JOIST SPAN TABLE[1]

SIZE	SPACING	CEILING JOISTS[2]	RAFTERS LIGHT[3]	RAFTERS HEAVY[4]
2x4	12"	12'-5"	10'-1"	9'-4"
	16"	11'-3"	8'-9"	8'-1"
	24"	9'-10"	7'-2"	6'-7"
2x6	12"	19'-6"	14'-9"	13'-8"
	16"	17'-8"	12'-10"	11'-10"
	24"	14'-9"	10'-5"	9'-8"
2x8	12"	25'-8"	18'-9"	17'-4"
	16"	22'-10"	16'-3"	15'-0"
	24"	18'-6"	13'-3"	12'-3"
2x10	12"	26'-0"	22'-10"	21'-2"
	16"	25'-5"	19'-10"	18'-4"
	24"	22'-11"	16'-2"	15'-0"

[1] Spans based on Douglas Fir-Larch #2 and better.
[2] Ceiling joists based on 10 psf live load and 5 psf dead load.
[3] Rafters with light roofing based on 20 psf live load and 10 psf dead load. (Shingles - No Drywall on rafters)
[4] Rafters with heavy roofing based on 20 psf live load and 15 psf dead load. (Tile - No Drywall on rafters)

PLACER COUNTY BUILDING DEPARTMENT AUBURN, CALIFORNIA

2001 CALIFORNIA BUILDING CODE CHAPTER 23

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